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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/618,457      | 07/14/2003  | Rajan A. Jaisinghani | P56907              | 3861             |

7590 12/07/2005

Robert E. Bushnell  
Suite 300  
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Washington, DC 20005

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| EXAMINER |
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CHIESA, RICHARD L

|          |              |
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| ART UNIT | PAPER NUMBER |
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1724

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/618,457

Applicant(s)

JAISINGHANI, RAJAN A.

Examiner

Richard L. Chiesa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24, 36-87 and 94-141 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-24, 36-41, 64-77, 94-101, 103-105, 107-111, 114, 115 and 124 is/are allowed.
- 6) ☒ Claim(s) 42-45, 47-49, 51-54, 56-63, 78-80, 83-85, 106, 116-119, 125-128, 130-133, 135-139 and 141 is/are rejected.
- 7) ☒ Claim(s) 46, 50, 55, 81, 82, 86, 87, 102, 112, 113, 120-123, 129, 134 and 140 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on October 17, 2005 has been entered.

### *Claim Objections*

2. Claim 43 is objected to because the phrase "said thickness" on the second line of claim 43 should apparently be changed to --a thickness-- . Appropriate correction is required.

### *Claim Rejections - 35 USC § 102/103*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 42-45, 48, 49, 51-53, 56, 78-80, 83-85, 125-127, 131-133, and 136-138 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as

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obvious over U.S. Patent No. 3,999,964 to Carr. Carr (note Figures 1-5, and col. 3, line 19 to col. 4, line 41) discloses an electrically enhanced filter apparatus and method with a porous replaceable filter medium positioned between perforated grids 26 and 28 forming pockets between arms of the filter assembly as claimed (35 USC 102b). It would appear that Carr may not explicitly state that the perforated grids are electrically conducting. However, Carr (note col. 4, lines 11-14) does disclose that the electrically conductive bus bar connects the charged perforated grid to a high magnitude DC voltage which indicates that the perforated grids of Carr are electrically conducting in virtually the same manner disclosed and shown by applicant. Consequently, it is inherent or at least would have been readily obvious to one of ordinary skill in the art (35 USC 103a) that Carr's perforated grids are electrically conductive.

6. Claims 42-45, 47-49, 51-54, 56-63, 78-80, 83-85, 106, 116-119, 125-128, 130-133, 135-139, and 141 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,999,964 to Carr in view of U.S. Patent No. 6,497,754 to Joannou. Carr, as described above in paragraph 5, discloses an electrically enhanced filter apparatus and process substantially as claimed. It would appear that Carr may not explicitly state that the grids are electrically conducting. Furthermore, Carr apparently does not disclose the presence of conductive print or pleats in the filter medium arms. However, Joannou (note Figures 1-6) teaches the well-known use of conductive grids 5, 10 including conductive graphite printing (note col. 4, lines 5-17) and a pleated filter medium 15 for the purpose of ensuring maximum electric charging and particle collection area (note Abstract; col. 2, lines 20-64, and col. 4, lines 27-65). Consequently, it would have been obvious to one having ordinary skill in the art to employ conductive grids with

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conductive graphite print and a pleated filter medium in the Carr electrically enhanced filter apparatus and process in order to improve electric charging and particle capture as taught by Joannou.

***Allowable Subject Matter***

7. Claims 1-24, 36-41, 64-77, 94-101, 103-105, 107-111, 114, 115, and 124 are allowed.

8. Claims 46, 50, 55, 81, 82, 86, 87, 102, 112, 113, 120-123, 129, 134, and 140 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

9. Applicant's arguments filed on October 17, 2005 have been fully considered but they are not persuasive. Most of applicant's comments now appear to be irrelevant due to the new grounds of rejection. However, it is important for applicant to understand that Carr discloses the filter, arms, and pockets. Joannou has merely been relied upon to explicitly teach conductive grids, graphite printing, and filter medium pleats. Employing these apparently minor modifications to the Carr filter device and process would clearly not destroy the basic operation of the Carr filter system as argued by the applicant.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane S. Smith, can be reached at (571) 272-1166.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-1700.

Facsimile correspondence must be transmitted through (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard L. Chiesa  
December 2, 2005

*Richard L. Chiesa*

**RICHARD L. CHIESA  
PRIMARY EXAMINER  
ART UNIT 1724**

*Dec. 2, 2005*